

WHAT IS CLAIMED IS:

1. A method for a user to remotely obtain exclusive control of a device over a network, the method comprising the steps of:

remotely establishing communication with the device over the network;

requesting to obtain remote exclusive control of the device's capabilities;

determining whether the device is available for the user to obtain remote exclusive control of the device's capabilities;

in a case where the determining step determines that the device is available for the user to obtain remote exclusive control of the device's capabilities, providing the user remote exclusive control of the device's capabilities; and

in a case where the determining step determines that the device is not available for the user to obtain remote exclusive control of the device's capabilities, adding the user to a reservation queue of users requesting exclusive control of the device's capabilities.

2. A method according to Claim 1, wherein providing remote exclusive control of the device's capabilities comprises temporarily deferring requests by users other than the user who has been provided remote exclusive control of the device's capabilities to perform operations utilizing the device's capabilities during a period in which the user maintains remote exclusive control of the device's capabilities.

3. A method according to Claim 1, wherein the determining step comprises determining whether the device is under exclusive control of another user.

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4. A method according to Claim 3, wherein, in a case where the determining step determines that the device is under exclusive control of another user, further comprising determining whether the user requesting remote exclusive control of the device has a higher priority than the other user and, if the requesting user does have a higher priority than the other user, temporarily yielding exclusive control of the device to the requesting user, thereby providing the requesting user with remote exclusive control of the device.

5. A method according to Claim 1, wherein the determining step comprises determining whether the user is authorized to obtain remote exclusive control of the device.

6. A method according to Claim 1, wherein, in a case where the user is added to the reservation queue of users requesting exclusive control of the device, adding the user at a position within the reservation queue based on a priority of the user.

7. A method according to Claim 6, wherein the user advances in the reservation queue as other users are removed from the reservation queue, and when the user reaches a first position within the reservation queue, providing the user with remote exclusive control of the device and notifying the user that remote exclusive control has been provided.

8. A method according to Claim 6, wherein the user advances in the reservation queue as other users are removed from the reservation queue, and when the user reaches a first position within the reservation queue, notifying the user that remote exclusive control of the device can be obtained and waiting a predetermined time for the user to confirm that remote exclusive control is to be provided.

obtaining identification information of the user; and

based on the obtained identification information, automatically manipulating print jobs within a print queue so as to print out print jobs pending in the print queue for the user during a period in which the user maintains remote exclusive control of the device, while temporarily deferring other print jobs pending in the print queue.

16. Computer-executable process steps for a user to remotely obtain exclusive control of a device over a network, comprising the steps of:

remotely establishing communication with the device over the network;

requesting to obtain remote exclusive control of the device's capabilities;

determining whether the device is available for the user to obtain remote exclusive control of the device's capabilities;

in a case where the determining step determines that the device is available for the user to obtain remote exclusive control of the device's capabilities, providing the user remote exclusive control of the device's capabilities; and

in a case where the determining step determines that the device is not available for the user to obtain remote exclusive control of the device's capabilities, adding the user to a reservation queue of users requesting exclusive control of the device.

17. Computer-executable process steps according to Claim 16, wherein providing remote exclusive control of the device's capabilities comprises temporarily deferring requests by users other than the user who has been provided remote exclusive control of the device's capabilities to perform operations utilizing the device's capabilities during a period in which the user maintains remote exclusive control of the device's capabilities.

19. Computer-executable process steps according to Claim 18, wherein, in a case where the determining step determines that the device is under exclusive control of another user, further comprising determining whether the user requesting remote exclusive control of the device has a higher priority than the other user and, if the requesting user does have a higher priority than the other user, temporarily yielding exclusive control of the device to the requesting user, thereby providing the requesting user with remote exclusive control of the device.

21. Computer-executable process steps according to Claim 16, wherein, in a case where the user is added to the reservation queue of users requesting exclusive control of the device, adding the user at a position within the reservation queue based on a priority of the user.

23. Computer-executable process steps according to Claim 21, wherein the user advances in the reservation queue as other users are removed

from the reservation queue, and when the user reaches a first position within the reservation queue, notifying the user that remote exclusive control of the device can be obtained and waiting a predetermined time for the user to confirm that remote exclusive control is to be provided.

24. Computer-executable process steps according to Claim 23, wherein after the predetermined time has elapsed, removing the user from the reservation queue and notifying the user that they have been removed from the reservation queue.

25. Computer-executable process steps according to Claim 23, wherein after the predetermined time has elapsed, moving the user to a new position within the reservation queue and notifying the user of the new position.

26. Computer-executable process steps according to Claim 25, wherein the new position is a last position within the reservation queue.

27. Computer-executable process steps according to Claim 25, wherein the new position is based on the user's priority as compared with other user's in the reservation queue.

28. Computer-executable process steps according to Claim 16, wherein the device is a multifunction device and wherein the device's capabilities comprise printing, facsimile, scanning and copying.

29. Computer-executable process steps according to Claim 16, wherein, in a case where the determining step determines that the device is available for the user to obtain remote exclusive control, further comprising

the step of authenticating the user before the user is provided remote exclusive control of the device.

30. Computer-executable process steps according to Claim 16, wherein, in a case where the user is provided with remote exclusive control of the device, further comprising the steps of:

obtaining identification information of the user; and

based on the obtained identification information, automatically manipulating print jobs within a print queue so as to print out print jobs pending in the print queue for the user during a period in which the user maintains remote exclusive control of the device, while temporarily deferring other print jobs pending in the print queue.

31. A computer-readable medium which stores computer-executable process steps for a user to remotely obtain exclusive control of a device over a network, the computer-executable process steps comprising:

remotely establishing communication with the device over the network;

requesting to obtain remote exclusive control of the device's capabilities;

determining whether the device is available for the user to obtain remote exclusive control of the device's capabilities;

in a case where the determining step determines that the device is available for the user to obtain remote exclusive control of the device's capabilities, providing the user remote exclusive control of the device's capabilities; and

in a case where the determining step determines that the device is not available for the user to obtain remote exclusive control of the device's capabilities, adding the user to a reservation queue of users requesting exclusive control of the device.

32. A computer-readable medium according to Claim 31, wherein providing remote exclusive control of the device's capabilities comprises temporarily deferring requests by users other than the user who has been provided remote exclusive control of the device's capabilities to perform operations utilizing the device's capabilities during a period in which the user maintains remote exclusive control of the device's capabilities.

33. A computer-readable medium according to Claim 31, wherein the determining step comprises determining whether the device is under exclusive control of another user.

34. A computer-readable medium according to Claim 33, wherein, in a case where the determining step determines that the device is under exclusive control of another user, further comprising determining whether the user requesting remote exclusive control of the device has a higher priority than the other user and, if the requesting user does have a higher priority than the other user, temporarily yielding exclusive control to the requesting user, thereby providing the requesting user with remote exclusive control of the device.

35. A computer-readable medium according to Claim 31, wherein the determining step comprises determining whether the user is authorized to obtain remote exclusive control of the device.

36. A computer-readable medium according to Claim 31, wherein, in a case where the user is added to the reservation queue of users requesting exclusive control of the device, adding the user at a position within the reservation queue based on a priority of the user.

37. A computer-readable medium according to Claim 36, wherein the user advances in the reservation queue as other users are removed from the reservation queue, and when the user reaches a first position within the reservation queue, providing the user with remote exclusive control of the device and notifying the user that remote exclusive control has been provided.

38. A computer-readable medium according to Claim 36, wherein the user advances in the reservation queue as other users are removed from the reservation queue, and when the user reaches a first position within the reservation queue, notifying the user that remote exclusive control of the device can be obtained and waiting a predetermined time for the user to confirm that remote exclusive control is to be provided.

39. A computer-readable medium according to Claim 38, wherein after the predetermined time has elapsed, removing the user from the reservation queue and notifying the user that they have been removed from the reservation queue.

40. A computer-readable medium according to Claim 38, wherein after the predetermined time has elapsed, moving the user to a new position within the reservation queue and notifying the user of the new position.

41. A computer-readable medium according to Claim 40, wherein the new position is a last position within the reservation queue.

42. A computer-readable medium according to Claim 40, wherein the new position is based on the user's priority as compared with other user's in the reservation queue.

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43. A computer-readable medium according to Claim 31, wherein the device is a multifunction device and wherein the device's capabilities comprise printing, facsimile, scanning and copying.

44. A computer-readable medium according to Claim 31, wherein, in a case where the determining step determines that the device is available for the user to obtain remote exclusive control, further comprising the step of authenticating the user before the user is provided remote exclusive control of the device.

45. A computer-readable medium according to Claim 31, wherein, in a case where the user is provided with remote exclusive control of the device, further comprising the steps of:

obtaining identification information of the user; and

based on the obtained identification information, automatically manipulating print jobs within a print queue so as to print out print jobs pending in the print queue for the user during a period in which the user maintains remote exclusive control of the device, while temporarily deferring other print jobs pending in the print queue.

46. An apparatus for which a user can remotely obtain exclusive control of over a network, the apparatus comprising:

a memory which stores executable process steps; and

a processor which executes the executable process steps, the executable process steps comprising (a) establishing communication with a remote device over the network, (c) receiving a request from the remote device for a user to obtain remote exclusive control of the apparatus' capabilities, (d) determining whether the apparatus is available for the user to obtain remote exclusive control of the apparatus' capabilities, (e) in a case where the determining step determines that the apparatus is available for the user to

obtain remote exclusive control of the apparatus' capabilities, providing the user remote exclusive control of the apparatus' capabilities, and (f) in a case where the determining step determines that the apparatus is not available for the user to obtain remote exclusive control of the apparatus' capabilities, adding the user to a reservation queue of users requesting exclusive control of the apparatus.

47. An apparatus according to Claim 46, wherein providing remote exclusive control of the apparatus' capabilities comprises temporarily deferring requests by users other than the user who has been provided remote exclusive control of the apparatus' capabilities to perform operations utilizing the apparatus' capabilities during a period in which the user maintains remote exclusive control of the apparatus' capabilities.

48. An apparatus according to Claim 46, wherein the determining step comprises determining whether the apparatus is under exclusive control of another user.

49. An apparatus according to Claim 48, wherein, in a case where the determining step determines that the apparatus is under exclusive control of another user, further comprising determining whether the user requesting remote exclusive control of the device has a higher priority than the other user and, if the requesting user does have a higher priority than the other user, temporarily yielding exclusive control of the apparatus to the requesting user, thereby providing the requesting user with remote exclusive control of the apparatus.

50. An apparatus according to Claim 46, wherein the determining step comprises determining whether the user is authorized to obtain remote exclusive control of the apparatus.

51. An apparatus according to Claim 46, wherein, in a case where the user is added to the reservation queue of users requesting exclusive control of the apparatus, adding the user at a position within the reservation queue based on a priority of the user.

52. An apparatus according to Claim 51, wherein the user advances in the reservation queue as other users are removed from the reservation queue, and when the user reaches a first position within the reservation queue, providing the user with remote exclusive control of the apparatus and notifying the user that remote exclusive control has been provided.

53. An apparatus according to Claim 51, wherein the user advances in the reservation queue as other users are removed from the reservation queue, and when the user reaches a first position within the reservation queue, notifying the user that remote exclusive control of the apparatus can be obtained and waiting a predetermined time for the user to confirm that remote exclusive control is to be provided.

54. An apparatus according to Claim 53, wherein after the predetermined time has elapsed, removing the user from the reservation queue and notifying the user that they have been removed from the reservation queue.

55. An apparatus according to Claim 53, wherein after the predetermined time has elapsed, moving the user to a new position within the reservation queue and notifying the user of the new position.

56. An apparatus according to Claim 55, wherein the new position is a last position within the reservation queue.

57. An apparatus according to Claim 55, wherein the new position is based on the user's priority as compared with other user's in the reservation queue.

58. An apparatus according to Claim 46, wherein the apparatus is a multifunction device and wherein the apparatus' capabilities comprise printing, facsimile, scanning and copying.

59. An apparatus according to Claim 46, wherein, in a case where the determining step determines that the apparatus is available for the user to obtain remote exclusive control, further comprising the step of authenticating the user before the user is provided remote exclusive control of the apparatus.

60. An apparatus according to Claim 46, wherein, in a case where the user is provided with remote exclusive control of the apparatus, further comprising the steps of:

obtaining identification information of the user; and

based on the obtained identification information, automatically manipulating print jobs within a print queue so as to print out print jobs pending in the print queue for the user during a period in which the user maintains remote exclusive control of the apparatus, while temporarily deferring other print jobs pending in the print queue.